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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,881	12/31/2003	Eric DiStefano	P18069	8886

25694 7590 06/07/2006

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EXAMINER	
CIRIC, LJILJANA V	

ART UNIT	PAPER NUMBER
3753	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,881	DISTEFANO ET AL.	
	Examiner	Art Unit	
	Ljiljana (Lil) V. Ciric LVC	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-16,19-22 and 25* is/are pending in the application.

4a) Of the above claim(s) *none* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-16,19-22 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the reply filed on March 12, 2006.

2. Claims 1 through 6, 8 through 16, 19 through 22, and 25 are pending.

Response to Arguments

3. Applicant's arguments filed on March 12, 2006 have been fully considered but they are not persuasive.

First of all, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Second of all, in response to applicant's arguments that at the time the claimed subject matter of the instant application was conceived, both the claimed invention and the Houle et al. reference "were assigned or under an obligation to be assigned to Intel Corporation" and that therefore Houle et al. reference cannot be used as the basis of the rejections under 35 U.S.C. 103(a), the examiner notes that the applicant has asserted that the invention was owned by, or subject to an obligation of assignment to, the same entity as the Houle et al. reference at the time this invention was made, or was subject to a joint research agreement at the time this invention was made. But, based upon the earlier effective U.S. filing date of the Houle et al. reference, it qualifies as prior art under 35 U.S.C. 102(e). Therefore, in order to properly overcome the applied art, the applicant must provide either a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the invention of this application, and is therefore, not the invention "by another," or by antedating the applied art under 37 CFR 1.131.

Applicant's arguments thus fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments thus do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Drawings

4. The drawings are objected to because Figure 2 includes impermissible solid black shading and also because the shading in general reduces the reproducibility thereof. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because it does not avoid phrases which can be implied (i.e., "are disclosed"). Correction is required. See MPEP § 608.01(b).

Claim Objections

6. Claims 16 and 25 are objected to because of the following informalities: "includes one of" (claim 16, lines 2-3; claim 25, lines 1-2) should be replaced with "chosen from the group consisting of" for proper Markush format. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 through 6, 8 through 11, 14 through 16, 20 through 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hood, III et al. (U.S. Patent No. 6,837,063, previously of record) in view of Houle et al. (U.S. Pub. No. 2005/00068725, previously of record).

Hood, III et al. [especially column 5, lines 54-67] discloses a cooling system for computers including both a liquid coolant based active cooling component and a passive cooling component essentially as claimed, except for not necessarily disclosing both the active cooling component and the passive cooling component as being capable of cooling the first heat generating device at the same time and for not disclosing the active cooling component as including liquid metal cooling, wherein the liquid coolant is a liquid metal.

Nevertheless, Houle et al. teaches using an active cooling component including liquid metal cooling wherein the liquid coolant is liquid metal and simultaneous active and passive cooling of the same heat generating device {especially see sections [0052] and [0062]} in a cooling system for computers.

Given the teachings of Houle et al., it would have been obvious to one skilled in the art at the time of invention to modify the cooling system of Hood, III et al. such that the active and passive cooling

components are capable of cooling a heat generating device at the same time and such that the active cooling component includes liquid metal cooling wherein the liquid coolant is liquid metal in order to increase the thermal efficiency of the cooling system.

9. Claims 12, 13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hood, III et al. (U.S. Patent No. 6,837,063, previously of record) in view of Houle et al. (U.S. Pub. No. 2005/00068725, previously of record) as applied to claims 1 through 6, 8 through 11, 14 through 16, 20 through 22, and 25 above, and further in view of Suzuki (U.S. Patent No. 6,105,662, previously of record).

Hood, III et al., as modified by Houle et al., discloses the invention as recited in claims 12, 13, and 19 of the instant application except for not disclosing a second device capable of generating heat, wherein the second device is to be cooled using a second heat pipe, with an evaporation end of the second heat pipe being coupled to the second device and wherein a condensation end of the second heat pipe is coupled to the heat exchanger.

Nevertheless, Suzuki teaches cooling plural heat generating devices using additional heat pipes such that a second heat generating device is cooled using a second heat pipe, with an evaporation end of the second heat pipe being coupled to the second heat generating device and with a condensation end of the second heat pipe being coupled to the heat exchanger.

Given the teachings of Suzuki, it would have been obvious to one skilled in the art at the time of invention to further modify the cooling system of Hood, III et al. by adding at least a second heat generating device and a second heat pipe for cooling the same, with an evaporation end of the second heat pipe being coupled to the second heat generating device and with a condensation end of the second heat pipe being coupled to the heat exchanger in order to provide an alternative cooling structure for cooling plural heat generating devices in a computer system and thus allow for greater design flexibility as taught by Suzuki.

10. Applicant has noted in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as the Houle et al. reference at the time this invention was made, or was subject to a joint research agreement at the time this invention was made. However, the Houle et al. reference additionally qualifies as prior art under another subsection of 35 U.S.C. 102, and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

Applicant may overcome the applied art either by a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the invention of this application, and is therefore, not the invention "by another," or by antedating the applied art under 37 CFR 1.131.

Conclusion

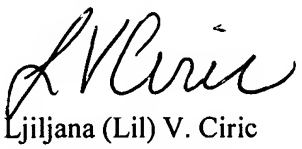
11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached at 571-272-4929.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ljiljana (Lil) V. Ciric
Primary Examiner
Art Unit 3753